

CLAIMS

I claim:

1. A color projection system, comprising:
 - a lamp;
 - at least one diffraction grating configured to diffract light from the lamp into a diffracted beam; and
 - an LC microdisplay panel configured to modulate the diffracted beam from the diffraction grating, wherein by moving the at least one diffraction grating with respect to the light from the lamp, the diffracted beam sequentially comprises a red, a green, and a blue beam.
2. The color projection system of claim 1, further comprising:
 - a motor to move the at least one diffraction grating with respect to the light from the lamp.
3. The color projection system of claim 2, wherein the motor is configured to move the diffraction grating by rocking the diffraction grating through an angular range.
4. The color projection system of claim 1, wherein the at least one diffraction grating comprises three diffraction gratings, each diffraction grating being configured to diffract a different color selected from the group of red, green, and blue.

5. The color projection system of claim 1, wherein the at least one diffraction grating is a reflection grating.
6. The color projection system of claim 1, wherein the at least one diffraction grating is a transmission grating.
7. The color projection system of claim 1, wherein the LC microdisplay panel is a reflective LC microdisplay panel.
8. The color projection system of claim 1, wherein the LC panel is a transmissive LC microdisplay panel.
9. A color projection system, comprising:
 - a lamp;
 - at least one prism configured to diffract light from the lamp into a diffracted beam; and
 - an LC microdisplay panel configured to modulate the diffracted beam from the at least one prism, wherein by moving the at least one prism with respect to the light from the lamp, the diffracted beam sequentially comprises a red, a green, and a blue beam.
10. The color projection system of claim 9, further comprising:
 - a motor to move the at least one prism with respect to the light from the lamp.

11. The color projection system of claim 10, wherein the motor is configured to move the at least one prism by rocking the prism through an angular range.
12. The color projection system of claim 11, wherein the angular range is less than 10 degrees.
13. The color projection system of claim 9, wherein the at least one prism is a reflection prism.
14. The color projection system of claim 9, wherein the at least one prism is a transmission prism.
15. The color projection system of claim 9, wherein the LC microdisplay panel is a reflective LC microdisplay panel.
16. The color projection system of claim 9, wherein the LC microdisplay panel is a transmissive LC microdisplay panel.
17. A method of color projection comprising:
 - providing a light beam incident on at least one diffraction grating;
 - moving the at least one diffraction grating with respect to the incident light beam,wherein the movement of the diffraction grating is such that a diffracted light beam from the at least one diffraction grating sequentially comprises red, green, and blue light; and

modulating the sequentially-provided red, green and blue light received by the LC microdisplay panel to project an image onto a screen.

18. The method of claim 17, wherein the movement of the at least one diffraction grating comprises rocking the at least one diffraction grating through an angular range.

19. The method of claim 17, wherein the providing act comprises providing a light beam incident on at least one of three diffraction gratings, each diffraction grating being configured to diffract a different color selected from the group consisting of green, blue, and red, and wherein the moving act comprises moving the three diffraction gratings with respect to the incident light beam such that each diffraction grating will sequentially diffract the incident light beam into its selected color.

20. A method of color projection comprising:

providing a light beam incident on at least one prism;

moving the at least one prism with respect to the incident light beam, wherein the movement of the at least one prism is such that a diffracted light beam from the at least one prism sequentially comprises red, green, and blue light; and

modulating the sequentially-provided red, green and blue light received by the LC microdisplay panel to project an image onto a screen.

21. The method of claim 19, wherein the movement of the at least one prism comprises rocking the at least one prism through an angular range.